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### Self-Implementing Cleanup and Disposal Plan 88-90 South Maple Street, Westfield, MA DEP RTN 1-15718

Apex Job Number: 6695.003

Prepared by:

Apex Companies, LLC 184 High Street, Suite 502 Boston, MA

Prepared for:

Sunoco, Inc. 10 Industrial Highway Lester, PA 19029

May 9, 2011



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May 9, 2011 Project No. 6695.003

United States Environmental Protection Agency – Region 1 5 Post Office Square, Suite 100 Boston, MA 02109-3912

Attention: Ms. Kimberly Tisa, Regional PCB Coordinator

Re: Self-Implementing PCB Cleanup and Disposal Plan 88-90 South Maple Street, Westfield, Massachusetts

**DEP RTN 1-15718** 

Dear Ms. Tisa:

On behalf of Sunoco, Inc., Apex Companies, LLC (Apex) is pleased to submit this Self-Implementing PCB Cleanup and Disposal Plan for the above-referenced site. The Plan was prepared following guidance contained in 40 CFR 761 of the Toxic Substance Control Act (TSCA). This Plan was designed to meeting TSCA requirements outlined in Sections 40 CFR 761.3 and 761(a) (3) for notification and management of bulk PCB remediation waste.

The property is also a Massachusetts Contingency Plan (MCP, 310 CMR 40.000) disposal site and is identified by Department of Environmental Protection Release Tracking Number (DEP RTN) 1-15718. As such, this submittal also addresses requirements for MCP Release Abatement Measure (RAM) Plans.

Ned J. Carey

Should you have any questions, please contact the undersigned.

Very truly yours,

Apex Companies, LLC

Program Manager, P.G., LSP

NJC

cc: William Morse, Sunoco

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### 1.0 INTRODUCTION

On behalf of Sunoco, Inc. (Client), Apex Companies, LLC (Apex) has prepared this Self-Implementing Plan (SIP) for submittal to the United States Protection Agency (EPA) Region 1. The SIP was prepared for the 88-90 South Maple Street site in Westfield, Massachusetts and was designed following guidance contained in the Toxic Substance Control Act (TSCA; 40 CFR 761) that addresses notification, cleanup and disposal of TSCA bulk PCB remediation waste.

The site is also a Massachusetts Contingency Plan (MCP, 310 CMR 40.0000) disposal site that is identified by Massachusetts Department of Environmental Protection (DEP) Release Tracking Number (RTN) 1-15718 (Site). As such, this SIP was also designed to address requirements for MCP Release Abatement Measure (RAM) Plans. A copy of this SIP will be included in a submittal to DEP that will be filed online using eDEP, once approval for this plan has been given by the EPA.

# History

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### 2.0 BACKGROUND INFORMATION

The Site is located in a commercial and residential area of Westfield. The Site operates as a retail gasoline service station (Sunoco) and a car wash. The property consists of approximately 56,628 square feet (SF) of land and is improved by a one-story building that operates as a convenience store and a detached automated car wash. Reviewed information indicates the building was constructed in 1988 and the car wash in 1985. Six dispenser pumps on two islands are located on Site (two west of building and four east of building). The dispenser islands are piped to three 10,000 gallon underground storage tanks (USTs) located immediately behind (south) the building.

The Site building is surrounded by paved parking areas. South and west of the paved are non-paved grassy areas. The surface covering the USTs is concrete. Per Sunoco specifications, the asphalt pavement at the Site is composed of 5-inches of compacted sub-base, 2-inches of asphalt binder and 1.5-inches of asphalt wearing course. In addition, 1.5-inches of wearing course was added in October 2004 resulting in 10-inches of asphalt and compacted sub-base.

Residential properties are located north and east of the Site. A thin stand of trees and the Little River abuts the Site to the west, while commercial and former industrial properties are located west of the Site along the river. The Universal Transverse Mercator (UTM) coordinates of the Site are approximately 684887 (Easting) and 4664542 (Northing) in Zone 18. A Site Locus Plan is provided as **Figure 1** and a Site Plan as **Figure 2**.

Based on definitions included in 40 CFR 761.3, the Site would be considered a Low Occupancy Area. The cleanup approach included in this SIP was designed considering the Low Occupancy Area classification for the Site, and also addressed MCP risk-based cleanup requirements.

The majority of environmental information for the Site was generated by others. The Site was listed as a disposal site with the DEP due to the failure of a tank tightness test performed on a dispenser line associated with the underground storage tank (UST) system on April 12, 2005. The DEP was notified and release tracking number (RTN) 1-15718 was assigned to the Site. PCBs were detected in soil disposal characterization samples collected from a soil stock pile generated as part of the response actions associated with RTN 1-15718. Since PCBs were not a previously known or an expected contaminant of concern at the Site, their detection in disposal characterization samples constituted a new reporting condition to DEP.

-Locatu origina (PCBJ As part of additional Site assessment activities, thirty-three additional soil borings were completed and 124 soil samples were collected from varying depth intervals and analyzed for PCBs. PCBs were detected at varying concentrations mostly on the western unpaved portion of the Site in the upper three (3) feet of soil and predominantly in the top foot. Two of these samples (SB-313, 0-1 feet and SB-315, 0-2 feet) reported total PCBs at concentrations of 248 mg/kg and 186 mg/kg, respectively. The detected PCBs were Aroclor 1248 and Aroclor 1254. The detected PCB concentrations at SB-313 and SB-315 are above the MCP Upper Concentration Limit (UCL) of 100 mg/kg. The detection of PCBs at concentrations of 248 mg/kg and 186 mg/kg is indicative of a Toxic Substance Control Act (TSCA) PCB remediation waste. An additional boring, SB-311, located south of the building in the immediate area of the former UST excavation had soil samples displaying total PCB concentrations of 45 mg/kg and 28.4 mg/kg. Reviewed information indicates groundwater is typically present at a depths ranging from approximately 9 to 12 feet below ground surface which is well below the depth where PCBs have been detected in soil.

To delineate the lateral and vertical extent of PCB contaminated soils in the area of SB-313 and SB-315, nine additional characterization borings (SB-500 series) were advanced using geoprobe sampling methods. With the exception of one 0 to 1 foot sample, total PCB concentrations in the 500 series borings were less than 10 mg/kg in the 0 to 1-foot and 1 to 2-foot samples. Additional borings were not advanced in the area of SB-311 due to the presence of subsurface UST piping runs and electrical utilities in this area. Note that this area is covered by 10-inches of asphalt pavement and sub-base, and meets EPA requirements for caps in Low Frequency Areas.

There has been no documented usage or storage of PCBs at the Site and or events (e.g., transformer release, etc.), historical or current, identified at the property as the potential source for the PCBs in surficial soil. Interviews and review of municipal files did not identify any past PCB usage or releases at the Site.

A DEP file review was also conducted in an effort to identify potential off-site sources. No sites were identified in the area of the Site as having documented PCB contamination however the file review also indicated PCBs were not tested for at the State sites where files were readily available.

The Site is located adjacent to the Little River and downstream from two historic paper mills and other historical industrial properties. Of note, paper mills operated along the river from the late 1800's to around 1981 (Crane Bros. Paper Mill circa 1874-1928; Stevens Paper Mill circa 1928-1980 and Paragon Paper circa 1980-1981) are documented historical sources of PCB contamination in rivers as PCBs were present in inks, paper adhesives, and were a common waste product discharged to rivers through outfalls prior to PCBs becoming regulated. During the mid 1950's two flood events occurred on the Little River in Westfield and the Site area with the major flood occurring in 1955. The Flood Zone, obtained from Westfield GIS information, indicates a portion of the Site is located within the flood zone of the Little River (see Appendix A). Historical information indicates the Site was undeveloped land during the 1955 flood. Waters of the Little River flooded adjacent properties leaving behind silt/sediment. Pictures obtained by Apex show the adjacent Crane Paper Mill with flood waters up to the windows of the mill building. Several environmental studies have attributed PCB contamination to historical paper mill activities in both river sediment and in upland areas as a result of flooding where rivers have overflowed their banks and deposited contaminated sediment. The predominant Aroclor detected at paper mill sites is Aroclor 1242 which was found in carbonless paper. Other Aroclors have also been documented and may be a result of inks and adhesives used historically in this industry appearing in the waste stream WM di

generated during paper recycling and/or from discharges from other industrial operations in the area. As discussed below, PCB Aroclors 1248 and 1254 are the PCB types detected at the Site and are the predominant PCBs detected in sediment sampled from the Little River. The distribution of PCBs at the Site shows correlation with the flood zone delineation.

In October 2010, sediment samples were collected from thirteen background locations along the Little River. Ten locations were located upstream (A1 through A9 and A13), while three sample locations (A10 through A12) were located approximately adjacent to the Site. One of the upstream samples (A13) was collected from above an existing dam at Crane Pond, while the others were collected from low lying areas on the north side of the river. The three samples collected adjacent to the Site were from a cut bank, which is an erosion feature and not a depositional feature. Sample depths generally ranged from 0 to 1 feet and 1 to 2 feet deep.

Three PCB Aroclors (1248, 1254 and 1260) were detected in the sediment samples with Aroclor 1248 and 1254 being detected at higher concentrations and greater frequency, which is consistent with the PCB types detected at the Site. Total PCB concentrations ranged from 0.130 mg/kg to 22.83 mg/kg in the upstream samples, and from not detected (ND) to 0.096 mg/kg in samples collected from the cut-bank adjacent to the Site. The lower concentrations in the cut-bank were expected due to this area of the river being an erosion feature characterized by more granular materials. The sediment samples collected upstream were from depositional areas and were characterized by finer grained sediments.

It is Apex's opinion that the source(s) of PCBs detected in sediment from the Little River and in soil at the Site are attributable to historical industrial activities located upstream of the Site and the 1955 flood which deposited sediment at the Site and other properties bordering the river. While the PCB concentration gradient indicates higher PCB concentrations on upland areas downstream of the sediment sample locations, this may be a product of fewer sediment samples, sample depths and locations, and re-suspension and downstream transport of PCB-affected sediment over the years.

### 3.0 APPLICABILITY AND NOTIFICATION UNDER 40 CFR 761

This SIP is intended to provide the notification required under 40 CFR 761.61(3). The nature and extent of PCB contamination at the Site has been adequately delineated during comprehensive response actions performed under the MCP. The extent of contamination at the Site in excess of 100 mg/kg has been identified in two locations, SB-313 and SB-315. In the area of SB-311 where PCB detections were above 25 mg/kg but below 50 mg/kg, additional explorations were not performed due to the presence of UST piping runs and electrical utilities in this area. The area of SB-311 is currently covered by 10-inches of asphalt pavement and compacted sub-base which satisfies EPA's requirement for caps in Low Occupancy Areas where PCBs are present in soil in excess of 50 mg/kg and less than 100 mg/kg (total PCB concentrations in this area are less than 50 mg/kg).

### 3.1 Location and Extent of Contamination

Sample and boring locations are shown on Figure 2. All sample locations have been marked in the field with stakes and their locations can be identified in the field. A summary of PCB analytical data is presented on the attached table. PCB analyses were performed by SPL, Inc., Scott, Louisiana using EPA Method 8082A.

As shown on Figure 2 and the attached table, 33 soil borings and 124 soil samples were collected and analyzed for PCBs. Testing results indicate PCBs are present at locations across the Site at concentrations greater than 1 mg/kg and typically less than 10 mg/kg in surficial soil (top 3 feet and predominantly the top foot) with the majority of higher detections in the unpaved area on the western portion of the Site.

Two samples, SB-313 (0-1 feet) and SB-315 (0-2 feet) reported total PCBs at concentrations of 248 mg/kg and 186 mg/kg, respectively. The detected PCBs were Aroclor 1248 and Aroclor 1254. To delineate the lateral and vertical extent of PCB impacted soils in the area of SB-313 and SB-315, nine additional characterization borings (SB-500 series) were advanced using geoprobe direct- push sampling methods. Eight borings were advanced 5-feet off center of the two borings while a third was approximately 15 feet west of SB-313. Sample intervals were from 0 to 1 feet and 1 to 2 feet. With the exception of one 0 to 1 foot sample, total PCB concentrations in the 500 series borings were less than 10 mg/kg in the 0 to 1-foot and 1 to 2-foot samples. Additional borings were not advanced in the area of SB-311 due to the presence of subsurface UST piping runs and electrical utilities in this area. Again, this area is covered by 10-inches of asphalt pavement and sub-base satisfying TSCA requirements for caps in Low Frequency Areas (40 CFR 761.61(7)). Additional sampling from 0 to 1-feet and 1 to 2-feet (and deeper if necessary), and along the base of the excavation, will be performed during the excavation and soil removal work (Section 4.0).

As previously discussed, a source area has not been identified at the Site and there have been no records identified that indicate PCBs were ever used or stored at the Site. Boring logs contained in prior reports by others that were reviewed by Apex do no indicate obvious fill materials on the Site that could be a potential source. PCBs have been detected in river sediment well upstream of the Site. The likely source(s) of PCBs in river sediment are historical industrial operations along and/or discharging via outfalls to the Little River. The 1955 flood raised river waters to first story windows and deposited silt and sediment in the flood zone on properties abutting the river. At the time of the 1955 flood, the Site was undeveloped.

### 3.2 Soil Characterization for RCRA Subtitle C Landfill Acceptance

Prior to soil excavation and removal activities, Apex will collect soil samples from within the staked areas for waste disposal characterization. Samples will be collected to a depth of approximately 2-feet (approximate depth of anticipated soil removal) using a hand auger or a manually driven spilt spoon sampler. Sampling equipment will be decontaminated using a water and Alconox mixture followed by a water rinse. The rinse water will be contained and blended with soils contained in the roll-offs. The suite of analyses will follow acceptance criteria for disposal at the RCRA Subtitle C facility and include: PCBs (Soxhlet extraction), Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), RCRA 8 metals, and waste characteristics (pH, reactivity, corrosivity and ignitability). If a constituent concentration exceeds its 20 times RCRA concentration, the sample will be analyzed using Toxicity Characteristic Leaching Procedure (TCLP) methods

Soil samples will be analyzed by Alpha Analytical of Westborough, Massachusetts. Samples will be place in an ice-packed cooler, secured with a custody seal, and transferred to the laboratory following chain-of-custody protocol.

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## 4.0 SELF-IMPLEMENTING CLEANUP AND DISPOSAL OF PCB REMEDIATION WASTE

The excavation approach, confirmatory sampling, soil management, disposal, decontamination and site logistics are described below. Remedial actions are being performed to meet TSCA cleanup standards applicable to Low Frequency Areas at locations where a Deed Restriction will be implemented. As such, remedial goals will be to achieve total PCB concentrations less than 25 mg/kg in the area of SB-313 and SB-315. The area of SB-311 is covered by 10-inches of asphalt pavement and compacted sub-base and meets TSCA requirements for caps in Low Frequency Areas per 40 CFR 761.61(7) where a Deed Restriction is implemented.

### 4.1 Remedial Excavation Approach

Remedial activities will be performed by 40-hour OSHA HAZWOPER trained contractors and Apex personnel. A Site-Specific Health and Safety Plan (HASP) will be prepared prior to initiation of work. Soil to be excavated for off-Site disposal will be characterized ahead of time to minimize the onsite storage time of PCB contaminated soils. Excavated soil will be immediately transferred to an onsite lined roll-off for storage.

A three-zone approach will be employed by the remedial contractor to control site activities. These zones will consist of the Exclusion Zone, Contamination Reduction Zone and Support Zone. Site personnel entering these zones will have proper training, certification and appropriate personal protective equipment. Work zones will be demarcated by yellow caution flagging attached to stakes. Movement of personnel and equipment onto and between these zones will be monitored. The purpose of implementing the work zones is to prevent migration of PCB contaminated soils. We anticipate soil removal activities will be completed in one day, and lining excavation areas with a geotextile-like marker layer and backfilling will be completed the following day.

The Exclusion Zones will encompass the PCB remediation areas to be excavated and will have specific ingress and egress routes for personnel and equipment during excavation activities. The remedial contractor will have equipment onsite capable of wetting soils should there be wind and dust concerns. Identification of final excavation limits may be guided in the field using a PCB soil screening test kit and confirmed with post-excavation soil sampling and testing as described below. Upon completion of the excavation area, the excavated area will be lined with a marker fabric and then backfilled. The marker fabric will be installed to allow the limits of the excavation to be determined should confirmatory analyses indicate additional excavation is necessary.

Soil will be excavated using a wheeled backhoe excavator. Reviewed information indicates depth to groundwater at the Site is approximately 9 to 12 feet below ground surface so excavation work will be performed in the dry. Excavated soils will be transferred immediately to a front end loader. The loader will transfer the soils to a lined roll-off container. The use of lined roll-off containers will negate the need for soil stockpiling, and the need for a second round of soil movement that would be required to transfer the soil stockpile to dump trucks for off-site disposal.

Excavations will be backfilled with compacted clean soil obtained from an off-Site location and covered by approximately 3 to 4-inches of loam then seeded.

### 4.2 Post-Excavation Confirmatory Soil Sampling

Post-excavation soil sampling will be performed in each of the two remedial areas. We anticipate each excavation will be approximately 10 feet long by 10 feet wide by approximately 2 feet deep (the area of SB-313 a little larger). Each sample will be analyzed for PCBs by Method 8082 using Soxhlet extraction. Analyses will also be performed in accordance with DEP's Compendium of Analytical Method (CAM) requirements.

Two samples (0 to 1 feet and 1 to 2 feet) will be collected and analyzed from each sidewall. We anticipate two samples approximately 3 feet apart will be collected from the excavation bottom to confirm the vertical extent of contamination. Compositing samples from the excavation sidewalls and bottom, from the depth interval and/or area of the excavation bottom, will be considered in the field.

### 4.3 Soil Management and Disposal Technology

Based on analytical data generated during the delineation of PCB-contaminated soils, we anticipate approximately 20 to 25 cubic yards (CY) or approximately 30 to 40 tons of PCB contaminated soil will be excavated and require off-Site disposal. This equates to approximately 10 to 15 CY from each of the two removal areas, with the removal area around SB-313 being slightly more than around SB-315. Anticipated excavation areas are shown on Figure 2.

As mentioned in Section 4.1, excavated soils will be stored onsite in lined and covered roll-off containers which will negate the need for stockpiling and additional soil movement (i.e., roll-offs will be placed directly onto trucks for off-site disposal).

We have assumed PCB concentrations greater than 100 mg/kg based on the existing Site data. As such, PCB-remediation waste will be transported and disposed of at a Subtitle C facility, CWM Landfill in Model City, New York (Niagara County), which also holds a TSCA Permit for disposal of PCB-contaminated materials.

All operator and trucks will have proper Department of Transportation certifications and vehicle inspection certifications.

### 4.4 Site Logistics and Decontamination Procedures

The two remediation areas are located in a grassy field. Only the backhoe involved in the excavation activities will be allowed in the Exclusion Zone. The front end loader, which will transfer soil from the exclusion zone to the roll-off, will be stationed at the entrance to the exclusion zone.

Site equipment in contact with contaminated PCB soils during excavation and management will undergo a dry and wet decontamination process. The dry contamination procedures will include dry brushing the exterior surface of equipment that has come in contact with contaminated soils to remove any visual contamination or soil. The wet procedures will involve a double-rinse in accordance with TSCA procedures over a decontamination pad. Liquids will be allowed to dry and/or will be collected and transported to the roll-off containers. Sampling equipment used to

## **Apex** Companies, LLC

collect the confirmation/verification samples will also be decontaminated following TSCA double-rinse procedures.

Prior to leaving the exclusion zone, any excess soil on tires or spilled on the ground will be collected on polyethylene and transferred to the roll-off. The tires and backhoe bucket will be power washed

#### 4.5 Schedule

Implementation of the remedial excavation and disposal activities summarized in this SIP will commence following approval of the SIP, dated May 9, 2011, by the EPA Regional TSCA PCB Coordinator. Accordingly, we anticipate the start of remedial activities in early June 2011. We anticipate soil removal and backfill activities will be completed in two days and soil will be transported off-site within a week of finishing the excavation work.

A report summarizing the PCB cleanup and disposal activities will be submitted to EPA (and a RAM Completion Report to DEP) within 60 days of completing the activities outlined in this SIP.

A Deed Restriction will be prepared following MCP Activity and Use Limitation requirements and will be recorded / registered within the timeframe outlined in the TSCA regulations (60 days after remediation and disposal activities are completed).

Because of the excavation area locations relative to the Little River, a Request for Determination of Applicability is currently being prepared for the Westfield Conservation Commission.

### 5.0 CERTIFICATION

As required by 40 CFR 761(3)(e), written certification is being provided that all sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup site, are on file at the location designated in the certificate (office in Site building at 88-90 South Maple Street), and are available for EPA inspection.

William R. Morse, Representative for Sunoco, Inc.

Table 1
Summary of Soil Analytical Results for PCBs
88 South Maple Street
Westfield, MA

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Total PCBs (mg/kg)	2.3	1.4	32.1	0.2	0.1	3.0	3.4	83	N N N	10/	J. C.	SAL	5	SR.	\K!	0.2	<rl< td=""><td><rl <<="" td=""><td><rl< td=""><td>9.6</td><td>0.1</td><td>0.1</td><td>∠RL</td><td>12</td><td>8</td><td>100</td><td>17</td><td>ia,</td><td>100</td><td>14,</td><td>2 4</td><td>100</td><td>23</td><td>2.8</td><td>,RL</td><td>·RL</td><td>0.4</td><td>0 1</td><td>'R</td><td>8</td><td>17</td><td></td><td>5 0</td><td>CRL CRL</td><td>0.2</td><td>SRL</td></rl<></td></rl></td></rl<>	<rl <<="" td=""><td><rl< td=""><td>9.6</td><td>0.1</td><td>0.1</td><td>∠RL</td><td>12</td><td>8</td><td>100</td><td>17</td><td>ia,</td><td>100</td><td>14,</td><td>2 4</td><td>100</td><td>23</td><td>2.8</td><td>,RL</td><td>·RL</td><td>0.4</td><td>0 1</td><td>'R</td><td>8</td><td>17</td><td></td><td>5 0</td><td>CRL CRL</td><td>0.2</td><td>SRL</td></rl<></td></rl>	<rl< td=""><td>9.6</td><td>0.1</td><td>0.1</td><td>∠RL</td><td>12</td><td>8</td><td>100</td><td>17</td><td>ia,</td><td>100</td><td>14,</td><td>2 4</td><td>100</td><td>23</td><td>2.8</td><td>,RL</td><td>·RL</td><td>0.4</td><td>0 1</td><td>'R</td><td>8</td><td>17</td><td></td><td>5 0</td><td>CRL CRL</td><td>0.2</td><td>SRL</td></rl<>	9.6	0.1	0.1	∠RL	12	8	100	17	ia,	100	14,	2 4	100	23	2.8	,RL	·RL	0.4	0 1	'R	8	17		5 0	CRL CRL	0.2	SRL
PCB 1268 (mg/kg)	<0.031	<0.028	<0.03	<0.031	<0.03	<0.03	<0.03	2003	20.07	:	:	:	;	:		,	;	:	:	:						:		:	;	;	;	:				:					:	:	-	:	1	:
PCB 1262 (mg/kg)	<0.031	<0.028	<0.03	<0.031	<0.03	<0.03	20.07	20.00	<0.05	1		:	:	1	:	1		1							1	:	:	-	1	1	;	1	1	:	-		:	:	:	1	;	:	:	1	1	1
PCB 1260 (mg/kg)	70.031	9000	35.0	110	0.085	2007	50.05	<0.03	<0.03	<0.036	<0.037	<0.037	<0.035	<0.034	<0.036	<0.036	36007	950.07	20.00	<0.034	<0.0.05	<0.035	<0.035	<0.034	<0.073	<0.036	<0.046	<0.18	<0.034	<0.035	•	<0.036	<0.038	<0.18	<0.034	<0.037	<0.038	<0.038	<0.038	<0.037	<0.034	<0.18	<0.035	<0.036	0.22	<0.037
PCB 1254 (mg/kg)	10000	<0.031	<0.020	20.01	20.03	<0.03	<0.03	<0.03	<0.03	<0.036	<0.037	<0.037	<0.035	<0.034	-0.036	00.00	20.00	<0.036	<0.036	<0.034	9.6	<0.035	<0.036	<0.034	0.41	<0.036	<0.046	0.52	<0.034	<0.035	<0.18	<0.036	<0.038	0.65	0.68	<0.037	<0.038	0.11	<0.038	<0.037	<0.034	0.52	0.053	<0.036	<0.035	<0.037
PCB 1248 (mg/kg)		2.31	1.32	31.7	0.098	0.07	2.97	3.42	8.33	<0.036	<0.037	<0.037	0.33	70.034	2000	<0.030	61.0	<0.036	<0.036	<0.034	<0.036	0.058	90.0	<0.034	0.77	<0.036	<0.046	1.2	<0.034	<0.035	<0.18	<0.036	<0.038	1.6	2.1	<0.037	<0.038	0.26	0.055	<0.037	<0.034	1.2	0.096	20.03	CO.035	70.037
PCB 1242 (mg/kg)		<0.031	<0.028	<0.61	<0.031	<0.03	<0.03	<0.03	<0.15	36007	20.020	50.037	50.03	\$0.033	<0.034	<0.036	<0.036	<0.036	<0.036	<0.034	<0.036	<0.035	<0.036	<0.034	<0.073	<0.036	<0.046	<0.18	ZO 034	20.03	<0.18	50.036	<0.038	<0.18	<0.034	<0.037	<0.038	<0.038	<0.038	<0.037	<0.034	<0.05	2000	50.05	<0.036	50.03
PCB 1232 F		<0.031	<0.028	<0.61	<0.031	<0.03	<0.03	20.03	45.00	50.05	<0.030	<0.03/	<0.03/	<0.035	<0.034	<0.036	<0.036	<0.036	<0.036	<0.034	<0.036	<0.035	<0.036	70.034	20.02	350.0	50.00	20.040	c0.10	<0.034	<0.033	50.00	\$0.030 00.038	8107	CO 034	<0.037	-0.038	CO.038	86007	70.037	100.00	<0.034	<0.10	<0.035	<0.036	<0.035
PCB 1221 F	ò	<0.031	<0.028	<0.61	<0.031	<0.03	20.07	20.00	<0.03	<0.15	<0.036	<0.037	<0.037	<0.035	<0.034	<0.036	<0.036	<0.056	70.057	70.053	20.00	20.03	50.03	<0.030	<0.034	<0.073	<0.036	<0.046	<0.18	<0.034	<0.035	<0.18	<0.036	<0.030	CU.10	50.034	20.05	×0.030	<0.030	<0.030	<0.037	<0.034	<0.18	<0.035	<0.036	<0.035
PCB 1016 F	(By BIII)	ZO 031	8000	CO.02	70031	20.00	50.03	<0.03	<0.03	<0.15	<0.036	<0.037	<0.037	<0.035	<0.034	<0.036	98007	20.036	0000	<0.036	<0.034	<0.036	<0.035	<0.036	<0.034	<0.073	<0.036	<0.046	<0.18	<0.034	<0.035	<0.18	<0.036	<0.038	<0.18	<0.034	<0.037	<0.038	<0.038	<0.038	<0.037	<0.034	<0.18	<0.035	<0.036	<0.035
Depth			1 0	0 - 0	2 0	2 0	5	2,	2.	2.	15'	15'	15'	14.	17.	100	2 2	12,00	12-14	12-14	10-12	10-12	0-3	3-6	6-10'	0-3,	3-6	6-10'	0-3	3-6	6-10'	0-3	3-6	6-10,	0-1.	0-3	3-6	6-10'	0-1,	0-3	3-6	6-10,	0-3	3-6	6-10'	0-3
Date			11/17/2005	11/16/2005	11/17/2005	11/17/2005	11/18/2005	12/19/2005	12/19/2005	12/19/2005	3/28/2007	3/28/2007	3/28/2007	2/202/07	3120/2007	3/28/2007	3/28/2007	3/28/2007	6/25/2007	6/25/2007	6/25/2007	6/25/2007	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/26/2009	5/26/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	6/02/2019	500001211	5/27/2009	5/25/2000
Clolen	Sample		StockPile	Tank Field	1	T2	T5	T1.A	H.B.	7.1	11-0	MW-101 (13)	MW-102 (15)	SB-103 (13)	SB-1 (14')	SB-2 (14')	SB-3 (13')	SB-4 (13')	MW-201 (12-14')	MW-202 (12-14")	MW-203 (10-12")	MW-204 (10-12')	SR-301 (0-3')	CB 301 (3.6)	SB-301 (6-10")	CB 302 (0.3)	CB 302 (3.6)	SB-302 (3-0)	SB-302 (0-10)	20-303 (0-3)	SB-303 (3-0)	SD-303 (0-13)	SB-304 (3-6)	SR-304 (6-10')	SR-305 (0-1')	SB-305 (0-3')	SR-305 (3-6)	SR-305 (6-10')	SR-306 (0-1")	CB 306 (0.3')	SB-300 (0-5)	SB-306 (3-0)	25-300 (9-10)	SB-307 (0-3)	SB-307 (3-6)	SB-307 (6-10)

# Table 1 Summary of Soil Analytical Results for PCBs 88 South Maple Street Westfield, MA

Total PCBs (mg/kg)	<rl< th=""><th>1.0</th><th>0.3</th><th><rl< th=""><th>1.0</th><th><rl< th=""><th>1.8</th><th>45.0</th><th>28.4</th><th><rl< th=""><th>3.6</th><th>0.1</th><th>0.1</th><th>^RL</th><th>248.0</th><th>2.5</th><th>0.1</th><th>^RL</th><th>2.5</th><th>0.7</th><th>-RL</th><th>-RL</th><th>9.4</th><th>186.0</th><th>-KL</th><th>0.1</th><th>-KR</th><th>9.0</th><th>0.3</th><th>⟨RL</th><th>-kR</th><th>6.0</th><th>0.2</th><th>⟨RL</th><th>^RL</th><th>-RL</th><th>-RL</th><th>2.5</th><th>1.2</th><th>-RI</th><th>2.3</th><th>0.5</th><th></th></rl<></th></rl<></th></rl<></th></rl<>	1.0	0.3	<rl< th=""><th>1.0</th><th><rl< th=""><th>1.8</th><th>45.0</th><th>28.4</th><th><rl< th=""><th>3.6</th><th>0.1</th><th>0.1</th><th>^RL</th><th>248.0</th><th>2.5</th><th>0.1</th><th>^RL</th><th>2.5</th><th>0.7</th><th>-RL</th><th>-RL</th><th>9.4</th><th>186.0</th><th>-KL</th><th>0.1</th><th>-KR</th><th>9.0</th><th>0.3</th><th>⟨RL</th><th>-kR</th><th>6.0</th><th>0.2</th><th>⟨RL</th><th>^RL</th><th>-RL</th><th>-RL</th><th>2.5</th><th>1.2</th><th>-RI</th><th>2.3</th><th>0.5</th><th></th></rl<></th></rl<></th></rl<>	1.0	<rl< th=""><th>1.8</th><th>45.0</th><th>28.4</th><th><rl< th=""><th>3.6</th><th>0.1</th><th>0.1</th><th>^RL</th><th>248.0</th><th>2.5</th><th>0.1</th><th>^RL</th><th>2.5</th><th>0.7</th><th>-RL</th><th>-RL</th><th>9.4</th><th>186.0</th><th>-KL</th><th>0.1</th><th>-KR</th><th>9.0</th><th>0.3</th><th>⟨RL</th><th>-kR</th><th>6.0</th><th>0.2</th><th>⟨RL</th><th>^RL</th><th>-RL</th><th>-RL</th><th>2.5</th><th>1.2</th><th>-RI</th><th>2.3</th><th>0.5</th><th></th></rl<></th></rl<>	1.8	45.0	28.4	<rl< th=""><th>3.6</th><th>0.1</th><th>0.1</th><th>^RL</th><th>248.0</th><th>2.5</th><th>0.1</th><th>^RL</th><th>2.5</th><th>0.7</th><th>-RL</th><th>-RL</th><th>9.4</th><th>186.0</th><th>-KL</th><th>0.1</th><th>-KR</th><th>9.0</th><th>0.3</th><th>⟨RL</th><th>-kR</th><th>6.0</th><th>0.2</th><th>⟨RL</th><th>^RL</th><th>-RL</th><th>-RL</th><th>2.5</th><th>1.2</th><th>-RI</th><th>2.3</th><th>0.5</th><th></th></rl<>	3.6	0.1	0.1	^RL	248.0	2.5	0.1	^RL	2.5	0.7	-RL	-RL	9.4	186.0	-KL	0.1	-KR	9.0	0.3	⟨RL	-kR	6.0	0.2	⟨RL	^RL	-RL	-RL	2.5	1.2	-RI	2.3	0.5	
PCB 1268 (mg/kg)			ı	:	ı	:	1		1	:		1		:		:	1				:	:	,	,	:	;	:	:	:	1	:	:	-	1	:	:	:	;	1	:	;	1	
PCB 1262 (mg/kg)			:	,				-		1		;	:				:	:							1		1		;		1	-			•	1					,	Ē	
PCB 1260 (mg/kg)	<0.034	<0.072	<0.038	<0.037	<0.069	<0.035	<0.1	<3.5	<1.8	<0.037	<0.18	<0.037	<0.037	<0.037	<3.7	<0.072	<0.037	<0.037	<0.11	<0.037	<0.037	<0.036	<1.1	<3.7	<0.037	<0.037	<0.037	<0.04	<0.038	<0.036	<0.038	<0.043	<0.038	<0.036	<0.04	<0.043	<0.041	<0.2	<0.041	<0.036	<0.08	<0.039	The second secon
PCB 1254 (mg/kg)	<0.034	0.36	0.098	<0.037	0.27	<0.035	0.58	13	7.4	<0.037	96.0	0.057	0.042	<0.037	48	0.61	<0.037	<0.037	1.2	0.37	<0.037	<0.036	2.8	46	<0.037	<0.037	<0.037	0.16	0.097	<0.036	<0.038	0.29	0.078	<0.036	<0.04	<0.043	<0.041	-	0.53	<0.036	0.72	0.17	
PCB 1248 (mg/kg)	<0.034	0.64	0.24	<0.037	0.77	<0.035	1.2	32	21	<0.037	2.6	0.089	90.0	<0.037	200	1.9	0.14	<0.037	1.3	0.3	<0.037	<0.036	9.9	140	<0.037	0.11	<0.037	0.41	0.23	<0.036	<0.038	9.0	0.16	<0.036	40.0 <del>4</del>	<0.043	<0.041	1.5	0.71	<0.036	1.6	0.33	
PCB 1242 (mg/kg)	<0.034	<0.072	<0.038	<0.037	<0.069	<0.035	<0.1	<3.5	<1.8	<0.037	<0.18	<0.037	<0.037	<0.037	<3.7	<0.072	<0.037	<0.037	<0.11	<0.037	<0.037	<0.036	<1.1	<3.7	<0.037	<0.037	<0.037	<0.04	<0.038	<0.036	<0.038	<0.043	<0.038	<0.036	<0.04	<0.043	<0.041	<0.2	<0.041	<0.036	<0.08	<0.039	
PCB 1232 (mg/kg)	<0.034	<0.072	<0.038	<0.037	<0.069	<0.035	<0.1	<3.5	<1.8	<0.037	<0.18	<0.037	<0.037	<0.037	<3.7	<0.072	<0.037	<0.037	<0.11	<0.037	<0.037	<0.036	4.1	<3.7	<0.037	<0.037	<0.037	<0.04	<0.038	<0.036	<0.038	<0.043	<0.038	<0.036	<0.04	<0.043	<0.041	<0.2	<0.041	<0.036	<0.08	<0.039	
PCB 1221 (mg/kg)	<0.034	<0.072	<0.038	<0.037	690.0>	<0.035	<0.1	<3.5	<1.8	<0.037	<0.18	<0.037	<0.037	<0.037	<3.7	<0.072	<0.037	<0.037	<0.11	<0.037	<0.037	<0.036	<1.1	<3.7	<0.037	<0.037	<0.037	<0.04	<0.038	<0.036	<0.038	<0.043	<0.038	<0.036	<0.04	<0.043	<0.041	<0.2	<0.041	<0.036	<0.08	<0.039	
PCB 1016 (mg/kg)	<0.034	<0.072	<0.038	<0.037	<0.069	<0.035	<0.1	<3.5	<1.8	<0.037	<0.18	<0.037	<0.037	<0.037	<3.7	<0.072	<0.037	<0.037	<0.11	<0.037	<0.037	<0.036	<1.1	<3.7	<0.037	<0.037	<0.037	<0.04	<0.038	<0.036	<0.038	<0.043	<0.038	<0.036	<0.04	<0.043	<0.041	<0.2	<0.041	<0.036	<0.08	<0.039	
Depth	6-10'	0-3	3-6	6-10	0-3	3-6	6-10	0-3	3-6'	6-10	0-1.	0-3,	3-6	6-10	0-1,	0-3	3-6	6-10'	0-1,	0-3	3-6	6-10'	0-1,	0-2	3,	4-6	6-10'	0-1.	0-3	3-6	6-10'	0-1.	0-3	3-6	0-1.	0-3	3-6	0-1,	0-3,	3-6	0-1,	0-3,	
Date	5/27/2009	5/26/2009	5/26/2009	5/27/2009	5/26/2009	5/26/2009	5/27/2009	5/26/2009	5/26/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	5/27/2009	6/30/2009	6/30/2009	6/30/2009	6/30/2009	6/30/2009	6/30/2009	6/30/2009	6/30/2009	6/30/2009	6/30/2009	6/30/2009	6/30/2009	6/30/2009	6/30/2009	6/30/2009	
Sample ID	SB-308 (6-10')	SB-309 (0-3')	SB-309 (3-6')	SB-309 (6-10')	SB-310 (0-3')	SB-310 (3-6')	SB-310 (6-10')	SB-311 (0-3')	SB-311 (3-6')	SB-311 (6-10')	SB-312 (0-1')	SB-312 (0-3')	SB-312 (3-6')	SB-312 (6-10')	SB-313 (0-1')	SB-313 (0-3')	SB-313 (3-6')	SB-313 (6-10')	SB-314 (0-1')	SB-314 (0-3')	SB-314 (3-6')	SB-314 (6-10')	SB-315 (0-1')	SB-315 (0-2)	SB-315 (3')	SB-315 (4-6)	SB-315 (6-10')	SB-401 (0-1')	SB-401 (0-3')	SB-401 (3-6)	SB-401 (6-10')	SB-402 (0-1')	SB-402 (0-3')	SB-402 (3-6)	SB-403 (0-1')	SB-403 (0-3')	SB-403 (3-6')	SB-404 (0-1')	SB-404 (0-3')	SB-404 (3-6')	SB-405 (0-1")	SB-405 (0-3')	1

Summary of Soil Analytical Results for PCBs 88 South Maple Street Westfield, MA Table 1

	Date	Depth	PCB 1016 (mg/kg)	PCB 1221 (mg/kg)	PCB 1232 (mg/kg)	PCB 1242 (mg/kg)	PCB 1248 (mg/kg)	PCB 1254 (mg/kg)	PCB 1260 (mg/kg)	PCB 1262 (mg/kg)	PCB 1268 (mg/kg)	Total PCBs (mg/kg)
SB-405 (6-10')	6/30/2009	6-10'	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	;		^RL
SB-406 (0-1')	6/30/2009	0-1,	<0.04	<0.04	<0.04	<0.04	0.17	0.091	<0.04	:		0.3
SB-406 (0-3')	6/30/2009	0-3	<0.037	<0.037	<0.037	<0.037	0.26	0.18	<0.037	1		0.4
SB-406 (4.5-6')	6/30/2009	4.5-6	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	-	-	^RL
SB-407 (0-1")	6/30/2009	0-1,	<0.038	<0.038	<0.038	<0.038	960'0	0.064	<0.038			0.2
SB-407 (0-3')	6/30/2009	0-3	<0.18	<0.18	<0.18	<0.18	0.7	0.43	<0.18	:	:	1.1
SB-407 (3-6')	6/30/2009	3-6	<0.036	<0.036	<0.036	<0.036	0.044	<0.036	<0.036	:	1	0.0
SB-407 (6-10')	6/30/2009	6-10'	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034		:	^RL
SB-408 (0-1')	6/30/2009	0-1.	<0.2	<0.2	<0.2	<0.2	2.1	0.89	<0.2	:		3.0
SB-408 (0-3')	6/30/2009	0-3	<0.19	<0.19	<0.19	<0.19	2.2	0.85	<0.19			3.1
SB-408 (3-6')	6/30/2009	3-6	<0.034	<0.034	<0.034	<0.034	0.27	0.1	<0.034	:	1	0.4
SB-409 (0-1')	6/30/2009	0-1,	<0.19	<0.19	<0.19	<0.19	5.6	1.4	<0.19		,	7.0
SB-409 (0-3')	6/30/2009	0-3	<0.036	<0.036	<0.036	<0.036	0.36	0.2	<0.036			9.0
SB-409 (3-6')	6/30/2009	3-6	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	1		·RL
SB-410 (0-1')	6/30/2009	0-1.	<0.18	<0.18	<0.18	<0.18	0.83	0.34	<0.18	1	;	1.2
SB-410 (0-3')	6/30/2009	0-3	<0.035	<0.035	<0.035	<0.035	0.16	0.067	<0.035	:		0.2
SB-410 (3-6')	6/30/2009	3-6	<0.036	<0.036	<0.036	<0.036	<0.036	<0.036	<0.036	ı	:	^RL
SB-411 (0-1')	6/30/2009	0-1.	<0.19	<0.19	<0.19	<0.19	2.1	0,92	<0.19		;	3.0
SB-411 (0-3')	6/30/2009	0-3	<0.035	<0.035	<0.035	<0.035	0.19	0.081	<0.035	:		0.3
SB-411 (3-6')	6/30/2009	3-6	<0.036	<0.036	<0.036	<0.036	0.075	<0.036	<0.036	i i	ı	0.1
M1RC Standards S-	1	-	2	2	2	2	2	2	2	2	2	:
M1RC Standards S-2	.2	-	2	2	2	2	2	2	2	2	2	ı
Upper Concentration Limits	n Limits	-	100	100	100	100	100	100	100	100	100	-

Notes:
All concentrations are in milligrams per kilogram (mg/kg)
Bold indicates concentration exceeds the applicable Method 1 Standard
Shading indicates concentration exceeds MCP Upper Concentration Limit

Ref' 310 CMR 40 (2/2008) PCBs - Polychlorinated Bipherryls < indicates compound was below the laboratory reporting limit

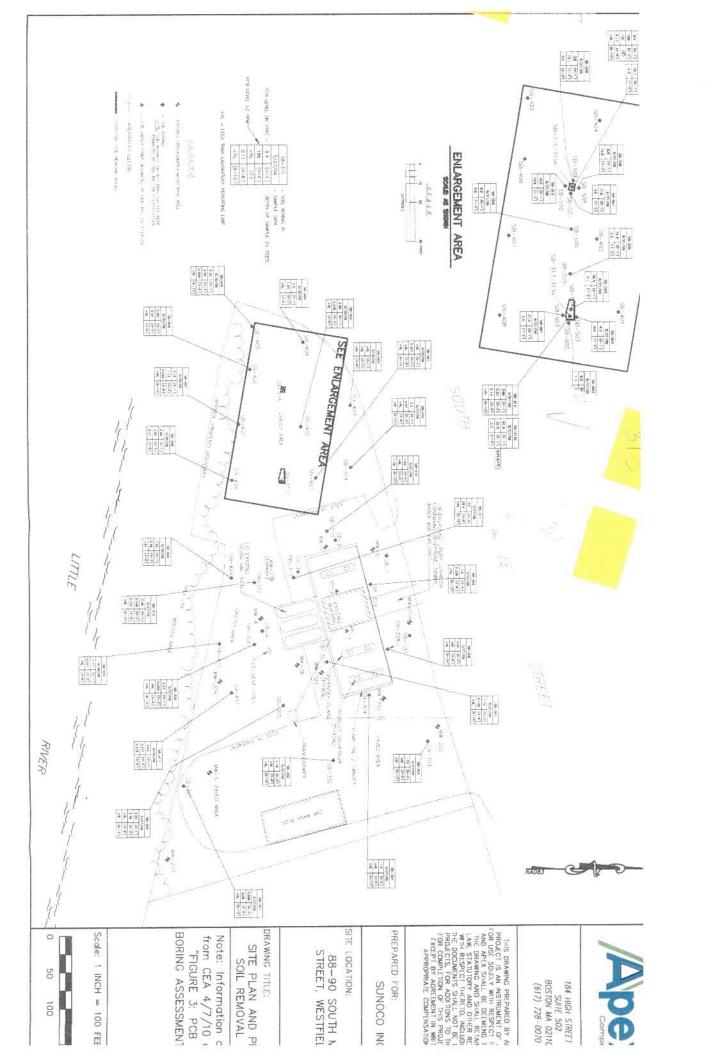
Figure 1

Locus Plan

Libba\6982 Surpoo Was MassIV,STIT, PLANY,S795—19TLA\*CHT-updated 4—27—118.chug

Figure 2

Site Plan



Appendix A

Flood Zone Map

